PIR NWR DPW
LED Traffic Lights

PROFILE INFORMATION

Title: LED Traffic Lights	Service: Transportation Program
Installation/Region: NW IMA	Alignment with Strategy: Energy Reduction Plan/O & M Reduction
Functional(s): Planning Division	Type of Initiative: Cost Avoidance/Energy Reduction
Current Process: Fort Lewis has 20 intersections with traffic signals that are lit with incandescent bulbs. The incandescent bulbs require maintenance 4 times per annum with additional emergency replacements if bulbs go out before quarterly replacements. Incandescent bulb consumes approximately 100 Watts of electricity per hour.	
Proposed Process: Replace all traffic signals with LED lights. The new light source lasts 10 times as long reducing maintenance and replacement significantly. LED lights also use 90% less energy than conventional incandescent bulbs, LED lights consume approximately 10 Watts of electricity per hour.	

COSTS & BENEFITS:

Discuss Cost Improvements: Installation will be completed in FY 04. Full cost avoidance and energy savings will be realized in FY 05. Cost avoidance and energy savings total $60K per year. Payback period is less than 2 years.	Discuss Non-cost Performance Improvements: Less traffic disruption and safer intersections.

STATUS

Project Milestones & Status: Began February 04. Project will be completed by September 04. Currently, 10% complete.		Project Team & POC: Charles Howell, Alan Johnson
Investment Required: $80K	RM Validation: NO	Scope: Potential for IMA-wide application/PEP

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Appendix A: Cost & Benefit Analysis

CURRENT PROCESS

Costs	Dollars	Appropriation	Describe Quantitative or Qualitative Performance Measure: Each of each intersection is scheduled quarterly. Crew is deployed for maintenance and traffic control. Several emergency deployments also occur in addition to scheduled maintenance.
Nonrecurring Costs:			
Year 1 Recurring Costs:	$70,000	SRM	
Year 2 Recurring Costs:	$70,000	SRM	Describe Data Source/Methodology: Cost for traffic light maintenance is tracked using MAXIMO management software. Energy savings estimated based on incandescent bulb wattage and annual run time.
Year 3 Recurring Costs:	$70,000	SRM	
Total Costs:	$210,000		

PROPOSED PROCESS

Costs:	Dollars	Appropriation	Describe Quantitative or Qualitative Performance Measure: Maintenance on traffic light intersections will be done annually with no emergency deployments anticipated.
Nonrecurring Costs:	$80,000	SRM	
Year 1 Recurring Costs:	$10,000	SRM	
Year 2 Recurring Costs:	$10,000	SRM	Describe Data Source/Methodology: Cost for traffic light maintenance is tracked using MAXIMO management software. Energy savings estimated based on LED bulb wattage and annual run time.
Year 3 Recurring Costs:	$10,000	SRM	
Total Costs:	$110,000		

COST/BENEFIT COMPARISON:

Savings/Avoidance:	$60	Describe non-cost Improvements: Better traffic flow and safer intersections from higher light output of LED.
Payback Period:	1-3 Years	

Source: DODI 7041.3 – Economic Analysis for Decision Making, November 1995
Economic Analysis Manual, February 2001, Department of the Army Cost and Economic Analysis Center

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